



Draft Texas Pandemic Influenza Preparedness Plan

Executive Summary

October 25, 2005

Background: The potential threat for a pandemic or global epidemic of influenza is from a new or “novel” virus, one that has not previously infected humans. The novel virus influenza currently circulating in birds is Influenza A subtype H5N1 virus. In addition to causing influenza in birds, influenza A viruses are a major cause of human influenza. Historically, three subtypes of H (H1, H2, and H3) and two subtypes of N (N1 and N2) have caused human influenza. Past novel influenza virus pandemics have led to high rates of illness and death, even in healthy populations, since most of the world’s population has no natural resistance to the virus. A total of 32 pandemic influenza outbreaks have been documented during the last 400 years, three during the last century: the 1918 Spanish flu, 1957 Asian flu, and 1968 Hong Kong flu. The 1918 pandemic killed more than 500,000 people in the United States and 20 million worldwide.

The H5N1 avian virus, most commonly found in chickens, first jumped from birds to humans in Hong Kong in 1997, infecting 18 people and causing six deaths. In late 2003, the virus began sweeping through poultry flocks in East Asia and as of October 24, 2005, has infected at least 121 humans, and killed 62. The H5N1 avian influenza virus circulating in Asia has expanded its host range to include cats, tigers, and leopards, which generally have not been considered susceptible to influenza A. Migratory birds have been linked to the spreading of the virus between countries. In recent months, the disease has spread from chicken flocks in Vietnam and Thailand to flocks in China, Indonesia, Russia, Turkey, Romania and Croatia. Although, there has been no evidence that the virus is genetically mutating to allow human-to-human transmission, response plans are geared toward this potential event.

Seasonal influenza is caused by any combination of three viruses that have been easily transmitted from human to human for many years. By tracking the predominant circulating human flu strains in the southern hemisphere, scientists predict which strains will cause influenza in the United States. Flu vaccine production, which requires eggs, begins six months before doses are shipped to providers. Because the virus is known and typically changes only slightly from year to year (a process called genetic drift), production of an effective vaccine is usually possible. To transmit easily from human to human, a major mutation, called genetic shift, must occur in the H5N1 virus.

Issues:

▪ Vaccines:

- The drug manufacturing system in the United States is in the private sector and not necessarily geared to public health preparedness.
- Seasonal influenza vaccine development capacity is based on the number of doses ordered the previous year, about 90 million doses in the United States. This current capacity is about one-third of what would be needed to supply flu vaccine to the entire U.S. population. Demand for and purchase of vaccine must increase for manufacturing plants to increase production.

- A new H5N1 vaccine has been developed from an avian strain not currently easily transmissible between humans. Therefore, it may not be completely effective in preventing a human novel virus disease that could cause a pandemic. To date, 20 million doses of this H5N1 vaccine have been ordered and paid for by the federal government with another \$100 million contracted to the manufacturer for an unspecified number of doses. This H5N1 vaccine will be stored in the federal government's Strategic National Stockpile.
 - Development and manufacture of a more specific H5N1 vaccine after the influenza virus "shifts" and is identified and characterized will take from 6 months to 8 months, using current methods.
 - The U.S. Department of Health and Human Services awarded a \$97 million contract to a drug company to develop a new technology to create vaccine more quickly and develop a new facility capable of manufacturing 300 million doses.
 - The National Institute of Allergy and Infectious Disease has partnered with another drug company to develop vaccines against 16 potentially dangerous flu viruses including H5N1 and using genetic technology that does not require eggs.
- **Antivirals:** Tamiflu® and Relenza® are neuraminidase inhibitors affective in treating H5N1 influenza. Antiviral medications do not cure influenza. Recent data on Tamiflu® indicates antiviral medications reduce the length of illness and disease severity by about a third and appears to prevent complications such as pneumonia, the typical cause of influenza deaths, by about two-thirds.
 - One company has the exclusive rights to manufacturing. It has quadrupled its capacity to produce Tamiflu® in the past two years and plans to build a plant in the United States. The production time per batch is 8 months to 12 months.
 - To date, the federal government has ordered and paid for enough Tamiflu® and Relenza® to treat 20 million people. This medication will be stored in the federal Strategic National Stockpile.
 - There is evidence that what is called bird flu or avian flu virus may be developing resistance to Tamiflu®.

Texas Pandemic Influenza Preparedness Plan Goals and Objectives: The goals of influenza pandemic preparedness and response plan are consistent with national plan goals: minimize serious illness, hospitalizations, and death; preserve critical infrastructure; and minimize social disruption in Texas resulting from an influenza pandemic. The objectives of the Texas Pandemic Influenza Preparedness Plan (PIPP) are:

1. To assist and facilitate appropriate planning and response at all levels of government by:
 - Developing a state plan through a collaborative process that clearly identifies roles and responsibilities;
 - Developing a plan sufficiently flexible to account for the unknown epidemiology of a pandemic and the needs of different stakeholders,
 - Recommending planning considerations for appropriate prevention, patient care, and treatment during a pandemic; and

- Advocating planning considerations for appropriate communications, resource management and preventive measures to minimize infrastructure and social disruption.
2. To provide a comprehensive operational plan that is reviewed on an annual basis to ensure incorporation of new developments and best practices.

DSHS Activities to Date and Projected to Completion:

- September 2003: In preparation for the possibility of widespread, devastating infectious disease, DSHS (formerly TDH), in cooperation with other state and local organizations, developed the first Texas Pandemic Influenza Plan (PIP).
- January 2004: Texas became one of eleven states to complete a final PIP.
- August 2004: Then HHS Secretary Tommy G. Thompson unveiled that department's draft Pandemic Influenza Response and Preparedness Plan, which outlined a coordinated national strategy to prepare for and respond to an influenza pandemic.
- August 2004: A core group of DSHS staff began a thorough review and point-by-point comparison of the draft state and national plans.
- September 2004: The core group identified additional individuals to participate in updating the 2004 TDH plan. This DSHS Pandemic Influenza Planning Group (PIPG) included DSHS staff from community preparedness, infectious disease control, immunizations, communication, governmental affairs, and regional and local services; zoonosis, and the DSHS pharmacy. The PIPG members have solicited additional input from stakeholders from regional and local groups, the healthcare community, and other state agencies.
- June 2005: The draft Pandemic Influenza Preparedness Plan (PIPP) was completed.
- July 1, 2005 to August 22, 2005: The PIPP with a qualitative questionnaire was sent to 150 public and private stakeholders for input. Consistent follow-up was conducted to maximize response. To date 75 questionnaires have been returned. Content analysis was conducted on the responses. Themes were identified for each of the five key components and supporting content.
- September 2005: Survey results were shared with core stakeholders who determined that three stakeholder workgroups should recommend additional content for special health needs (with physical, hearing, visual, or cognitive impairments), rural populations, and populations with other special considerations (poverty, ethnic diversity, language barriers, homebound, homelessness, mental health/substance abuse).
- September 16, 21, 23: Stakeholder workgroups met.
- September 26-October 1: PIPG incorporated workgroup recommendations into the draft PIPP.
- October 1-10: Workgroup members reviewed the incorporated PIPP edits based on workgroup suggestions.
- October 10-24: Edits of Key Component sections and Appendices were completed.
- October 25-November 23: Document published on the DSHS Web site for public comment.

Synopsis of the plan:

The PIPP is organized according to the 2005 World Health Organization's (WHO) pandemic periods and phases: Interpandemic, Pandemic Alert, Pandemic, and Postpandemic. The planning

group added a Subsided phase before Postpandemic to reflect activities that needed to occur between pandemic waves. Within each WHO pandemic period, activities are divided into five Key Components that reflect both the WHO and HHS plans. These are: Planning and Coordination, Situation Monitoring and Assessment, Prevention and Control, Health Systems Response, and Communication. Within each key component, activities are considered related to location of the virus (international, North America, or Texas) to allow for differences in response. Responsibilities residing with DSHS Central office, Health Service Regions, and local health departments are delineated. The eighteen appendices that follow provide additional information and templates.

- **Interpandemic Period:** This period has two phases: (1) the many years between pandemics when no novel virus is identified and (2) the time that a novel virus is identified that poses a human risk but no human infection has occurred. Plan content focuses on preparations for the next pandemic including: preparations for incident command including the DSHS structure, local plan development, relationships with bordering jurisdictions, existing national and Texas surveillance programs, surveillance improvements, role of the DSHS laboratory, non-pharmaceutical interventions available to health departments, personal protection practices for Texas residents, equitable vaccine and antiviral allocation and distribution plans, reinforcing seasonal vaccination efforts, determining health care resources and supplies in communities, projecting impact on the community, identifying critical service providers, and developing professional and public communication strategies.
- **Pandemic Alert Period:** This period has three phases that reflect: (3) a human is infected; (4) small clusters of humans are infected with limited human-to-human transmission, and (5) localized human transmission is seen. Texas response to a declaration of Pandemic Influenza Phase by WHO and CDC will vary depending on if the infection occurs internationally, in North America, or in Texas. Response is developed for each scenario. Plan content focuses on when to activate incident command, plan review, assessing resources, enhancing surveillance, specimen collection and handling, implementing non-pharmaceutical interventions, preparation for use of pharmaceutical interventions if available, reviewing collaborations with providers in communities, and provider and public communication.
- **Pandemic Period:** This period has one phase: (6) increased and sustained transmission in the general population identified. Plan content focuses on activation of incident command, case reporting, infection control, receiving, allocating, and distributing federal antiviral and/or vaccine stockpile allocation for Texas, getting pharmaceuticals to people, monitoring and tracking pharmaceuticals, disaster mental health, and appropriate professional and public communication.
- **Subsided Period:** This is the interval between waves. At least two waves are expected in Texas. The plan focuses on taking stock of resources, quick evaluation of plan performance with adjustments as needed, continued use of personal non-pharmaceutical prevention strategies, continued vaccination of population according to priority list, and assessment of communication strategies with adjustments as needed.
- **Postpandemic Period:** This is the end of the pandemic and points to a return to Interpandemic Period. The plan emphasizes evaluation. Incident command will conduct after action analysis and reports; local and regional health departments will assess local response and social impacts; DSHS central office will collect data and assess statewide

impacts; infectious disease control staff will analyze disease data and complete reports; pharmacy and immunization staff will evaluate coverage, processes, efficiency, effectiveness; communications staff will evaluate the overall communication plan. DSHS and stakeholders will examine the PIPP for needed change.

Next steps:

- Assess preparedness of regional and local health departments to identify issues related to and resources needed to improve preparedness.
- Assist Health Service Regions and Local Health Departments to improve preparedness.
- Exercise pandemic influenza plans.
- Develop messages for various groups: government, professionals, media, and public.
- Seek out opportunities to educate: professional newsletters, meetings, conferences, etc.
- Continue to improve communication and collaborations with official animal health agencies and industry organizations.

Contact:

For questions regarding the Pandemic Influenza Preparedness Plan contact:

*Susan Penfield, M.D.
Manager, Infectious Disease Control
Community Preparedness Section
Department of State Health Services
Phone: 512-458-7455
Email: susan.penfield@dshs.state.tx.us*